Urban versus conventional agriculture, taxonomy of resource profiles: a review - DTU Orbit (08/11/2017)

Urban versus conventional agriculture, taxonomy of resource profiles: a review

Urban agriculture appears to be a means to combat the environmental pressure of increasing urbanization and food demand. However, there is hitherto limited knowledge of the efficiency and scaling up of practices of urban farming. Here, we review the claims on urban agriculture's comparative performance relative to conventional food production. Our main findings are as follows: (1) benefits, such as reduced embodied greenhouse gases, urban heat island reduction, and storm water mitigation, have strong support in current literature. (2) Other benefits such as food waste minimization and ecological footprint reduction require further exploration. (3) Urban agriculture benefits to both food supply chains and urban ecosystems vary considerably with system type. To facilitate the comparison of urban agriculture systems we propose a classification based on (1) conditioning of the growing space and (2) the level of integration with buildings. Lastly, we compare the predicted environmental performance of the four main types of urban agriculture that arise through the application of the taxonomy. The findings show how taxonomy can aid future research on the intersection of urban food production and the larger material and energy regimes of cities (the "urban metabolism").

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